

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-17. (Cancelled)

18. (Previously Presented) A method of making an array of thin film transistors (TFTs) comprising:

providing a substrate;

forming a plurality of gate electrodes and gate address lines on the substrate, the gate address lines being connected to the gate electrodes;

forming a gate insulating layer over the gate electrodes;

forming a semiconductor layer over each of the gate electrodes;

forming source and drain electrodes with a channel there between and a plurality of drain address lines;

forming a photo-imageable insulating layer having a dielectric constant less than about 5.0 over a substantial portion of the substrate;

forming a plurality of vias in the photo-imageable insulating layer, at least one via corresponding to a thin film transistor in the array; and

forming a plurality of pixel electrodes over the photo-imageable insulating layer, each pixel electrode contacting a respective source electrode of the thin film transistor through the at least one via;

wherein the pixel electrode on the substrate overlaps at least one of the gate address and drain address lines whereby the pixel electrodes are insulated from the gate address and drain address lines in the overlap area by the photo-imaged insulating layer, and

wherein the parasitic capacitance corresponding to an overlap of said each pixel electrode to one of the gate address and drain address lines is no greater than 0.01 pF.

19. (Previously Presented) The method of claim 18, wherein the photo-imageable insulating layer has a dielectric constant of less than about 3.0 over a substantial portion of the substrate.

20. (Previously Presented) The method of claim 18, wherein the photo-imageable insulating layer has a thickness of about 1.5 μm in areas where the pixel electrode overlaps one of the gate address and drain address lines.

21. (Previously Presented) The method of claim 18, wherein the pixel pitch of the display is about 150 μm .

22. (Previously Presented) A method of making a liquid crystal display including an array of thin film transistors (TFTs), comprising:

forming an array of semiconductor based TFTs and corresponding address lines on a substrate;

forming an organic insulating layer on the first substrate over the TFTs and address lines, the organic insulating layer having a dielectric constant of less than about 5.0;

photo-imaging the insulating layer to forming a plurality of contact holes therein; and

forming an array of pixel electrodes over the photo-imaged insulating layer so that each pixel electrode communicates with one of the TFTs through a corresponding one of the contact holes in the insulating layer,

wherein the pixel electrodes overlap at least one of the address lines thereby resulting in a

high aperture display which includes a pixel aperture ratio greater than a display without such overlap and a parasitic capacitance corresponding to an overlap of one of the pixel electrodes to one of the address lines is no greater than 0.01 pF.

23. (Previously Presented) The method of claim 22, wherein the organic insulating layer has a dielectric constant of less than about 3.0.

24. (Previously Presented) The method of claim 22, wherein the organic insulating layer is from about 1.0 to 2.5 μm thick.

25. (Previously Presented) The method of claim 24, wherein the insulating layer is substantially transparent.

26. (Currently Amended) A method of making a liquid crystal display having a substrate including an array of transistors, comprising:

forming an array of transistors and corresponding address lines on the substrate;

forming an ~~organic~~ insulating layer on the substrate over the transistors and address lines, the ~~organic~~ insulating layer having a dielectric constant of less than about 5.0 and a thickness in areas thereof of at least about 1.0 μm ;

photo-imaging the ~~organic~~ insulating layer to form a plurality of contact holes therein;

forming a plurality of pixel electrodes over the photo imaged ~~organic~~ insulating layer so that each pixel electrode overlaps at least a portion of at least one of the address lines and communicates with one of the transistors through a corresponding one of the contact holes in the ~~organic~~ insulating layer; and

providing the ~~organic~~ insulating layer in a thickness of at least about 1.0 μm in areas

thereof so that the line-pixel capacitance between at least one of the address lines and an overlapping pixel electrode sandwiching the ~~organic~~ insulating layer there between is less than about 20 fF.

27. (Currently Amended) The method of claim 26, wherein the ~~organic~~ insulating layer has a dielectric constant of less than about 3.0 over a substantial portion of the substrate.

28. (Currently Amended) The method of claim 26, wherein the ~~organic~~ insulating layer has a thickness of about 1.5 μ m in areas where the pixel electrode overlaps one of the address lines.

29. (Previously Presented) The method of claim 26, wherein the line-pixel capacitance is less than or equal to 12 fF.